9. REMUNERATION/SCALE OF PAY:

The candidates so appointed in the above vacancies, shall be placed on probation for a period of 2 (Two) years on duty within a continuous period of 3 (Three) years. During the period of probation, they shall be paid a consolidated monthly remuneration of Rs.75,000/- (Rupees Seventy five thousand only). After successful completion of the period of probation they shall be made applicable to the relevant scale of pay as admissible to that post as on the date of probation declaration. **(Time Scale of Pay Rs.86245-2900-100745-3350-117495-3725-136120-4155- 156895-4550- 179645-4850 -203895- 5020-208915)(RPS-2022)).**

10. SYLLABUS:

a) Assistant Executive Engineer/Electrical: (Core 70 Marks)

Electric Circuits: Network graph, KCL, KVL, node and mesh analysis, star/delta transformation, electromagnetic induction; mutual induction; ac fundamentals; harmonics, transient response of DC and AC networks; sinusoidal steady state analysis, resonance, ideal current and voltage sources, Thevenin's, Norton's Superposition and Maximum Power Transfer theorems, two-port networks, three phase circuits, power measurement.

Electrical Machines: Single phase transformer-equivalent circuit, phasor diagram, tests, regulation and efficiency; three phase transformers – connections, Parallel operation; auto-transformer; DC machines – types, windings, generator/motor characteristics, armature reaction and commutation, starting and speed control of motors; three phase induction motors-principles, types, performance characteristics, starting and speed control; single phase induction motors; synchronous machines – performance, regulation and parallel operation of generators, motor starting, characteristics and applications.

Power Systems: Basic power generation concepts; transmission line models and performance; underground cable, string insulators; corona; distribution systems; per-unit quantities; bus impedance and admittance matrices; load flow; voltage control, power factor correction; economic operation; symmetrical components; fault analysis; principles of over-current, differential and distance protection; protection of alternator, transformer, transmission lines neutral earthing, Solid state relays and digital protection; circuit breakers; system stability concepts, swing curves and equal area criterion.

Utilization & Control Systems: Principles of feedback; transfer function; block diagrams, steady- state errors; Routh and Nyquist techniques; Bode plots; root loci, lag, lead and lead - lag compensation; Heating – resistance, induction, dielectric; Welding spot, seam and butt, Electric traction – speed-time curves, tractive effort;

Measurements: Bridges and potentiometers; PMMC, moving iron, dynamometer and induction type instruments; measurement of voltage, current, power, energy and power factor, digital voltmeters and multi

meters; phase, time and frequency measurement; Q-meters; oscilloscopes;

Analog and Digital Electronics: Characteristics of diodes, BJT, FET; amplifiers – biasing, equivalent circuit and frequency response; oscillators and feedback amplifiers; Combinational and sequential logic circuits; multiplexer, Schmitt trigger, A/D and D/A converters; 8-bit microprocessor basics, architecture, programming and interfacing.

Power Electronics and Drives: Semiconductor power diodes, transistors, thyristors, triacs, GTOs, MOSFETs and IGBTs – static characteristics and principles of operation, triggering circuits, phase control rectifiers; bridge converters – fully controlled and half controlled principles of choppers and inverters basic concepts of adjustable speed dc and ac drives.

b) Assistant Executive Engineer/Telecom: (Core 70 Marks)

Network Analysis: Kirchoff's Laws, RC, RL & RLC Circuits, Initial conditions, Energy, Power, Instantaneous, max, average, RMS values of alternating currents, Phaser representation, transient and steady state analysis, Total response. Network analysis using Laplace Transforms, properties of Laplace transforms.

Fourier Series: Continuous and discrete Fourier Transforms, z-transforms. Applications to signal Analysis. Convolution. Network Theorems and Applications. Two Port Parameters, Series, Parallel and Cascade connections of two port networks, Z, Y, ABCD Parameters, Network Functions, Poles and Zeros. Driving point and Transfer Functions, Image Parameters, Conventional LP, HP, BP, Band Stop Filters. Composite Filters, T, π & Lattice Networks, Attenuators and Equalizers.

Electronic Devices & Circuits: PN Junction, PNP, NPN Transistors. Biasing. Tunnel Diode, FET, UJT, SCR Characteristics, Various CB, CE,CC transistor Amplifiers Analysis & Performance. RC coupled and push pull amplifiers, compensation techniques, Feedback, Negative feedback, oscillator Circuits, Phase Shift Oscillator.

Digital Circuits: Wave Shaping, multi-vibrators, Sweep Generators, Counters, logic Gates and Circuits, Number Systems, Codes, Error Detection and Correction. Sequential Circuits, Integrated Circuits OP Amps-Applications, IC Comparator Circuits, A/D, D/A Converters,

Linear Control System: Open loop, closed loop system, Signal Flow Graphs, Stability Routh-Hurwitz and Nyquist Criterion, Bode plots, Gain-phase Margin. Lead-Lag compensation Techniques.

Transmission Lines & Antennas: Transmission line equation, Primary and Secondary Parameters, Propagation constants, Open and Short Circuited Lines, Standing Waves, Reflection Coefficient, VSWR, Line as Circuit element, Impedance Matching.

Maxwell's equations and Field Theory: Various Laws & Theorems in Electromagnetism, Plane Waves, Boundary Conditions, Concept of Radiation, Half wave Dipole, Antenna Arrays, Communication Antennas-performance Characteristics.

Wave guides and Components: Reciprocal & non Reciprocal Wave guide components, Couplers, Tees, Microwave Sources, Microwave Communication, Link Design.

Basics of Micro Processors & Micro Controllers: Architecture and Assemblers. memory Devices.

Communication systems: Modulation, All types of Modulation techniques, SNR, Analog & Digital Communication techniques, multiplexes, Demodulators, Radio Receivers & Transmitters Characteristics & Basics of Fibre Optics Communication and Satellite Communication Systems.

c) Assistant Executive Engineer/Civil: (Core 70 Marks)

Strength of Materials: Simple stresses and strains. Hooke's law. Stress-strain curve for mild steel, elastic constants, compound bars, temperature stresses, strain energy, resilience, impact loading, SFD and BMD for simple cantilever and overhanging beams. Centre of gravity and moment of inertia, bending and shear stress distributions. Theory of pure torsion, helical spring, thin and thick cylinders, analysis of trusses by method of joints and method of sections, combined direct and bending stresses, column and struts, deflection of beams-double integration, moment area and conjugate beam methods.

Reinforced Concrete: Basic reinforcing materials, tests on cement and aggregates, Structural concrete and its grades, workability tests and concrete mix design. Singly and doubly reinforced beams, working stress design of rectangular and flanged beams shear bond, development length and torsion in beams, one-way and two-way slabs, axially and eccentrically loaded columns, isolated and combined footings. Basic concepts of limit state design and its applications to the design of beams, slabs and columns.

Soil Mechanics: Physical properties of soils, classification and identification, permeability, capillarity, seepage, compaction, shear strength, Earth pressure, slope stability.

Steel Structures: Grades of steels, design of simple and compound beams, riveted and welded joints, riveted and welded connections eccentric framed and seated, simple and compound columns, slab and gusseted bases, grillage foundations, roof trusses, plastic analysis-plastic bending of beams, shape factor, plastic analysis theorems, and analysis of fixed, propped cantilever beams by static and kinematic methods.

Fluid Mechanics & Machinery: Fluid properties, pressure measurements, manometers, forces on plane and curved surfaces, center of pressure, principle of buoyancy, stability of floating and submerged bodies, meta centre, Kinematics of fluid flow, equation of continuity. Euler's and Bernoulli's equations, Impulse-momentum, flow measuring devices-orifices and mouth pieces, notches and weirs, flow through pipes, open channel flow, impact of jets-stationery and moving vanes (flat and curved), radial vanes, hydraulic turbines, pumps and machinery.

Foundation Engineering: Stress distribution in soils, bearing capacity, settlement analysis, pile foundation, Coffer dams, Caissons, Dewatering,

Bracing for excavations, site investigations, New mark charts, Machine foundation.

d) <u>Common Syllabus for all exams</u>

(i) **Reasoning and General Intelligence**: Questions of both verbal and non-verbal type. These will include questions on Semantic Analogy, Symbolic operations, Symbolic/Number Analogy, Trends, Figural Analogy, Space Orientation, Semantic Classification, Venn Diagrams, Symbolic/ Number Classification, Drawing inferences, Figural Classification, Punched hole/ pattern-folding & unfolding, Semantic Series, Figural Pattern-folding and completion, Number Series, Embedded figures, Figural Series, Critical Thinking, Problem Solving, Emotional Intelligence, Word Building, Social Intelligence, Coding and de- coding, Numerical operations, Other sub- topics, if any.

(ii) **General Awareness**: Questions are designed to test the candidates‟ general awareness of the environment around them and its application to society. Questions are also designed to test knowledge of current events and of such matters of everyday observation and experience in their scientific aspect as may be expected of an educated person. The test will also include questions relating to India and its neighboring countries especially pertaining to History, Culture, Geography, Economic Scene, General policy and scientific research.

(iii) **Quantitative Aptitude**: The questions will be designed to test the ability of appropriate use of numbers and number sense of the candidate. The scope of the test will be the computation of whole numbers, decimals and fractions and relationships between numbers. It will test sense of order among numbers, ability to translate from one name to another, sense or order of magnitude, estimation or prediction of the outcome of computation, selection of an appropriate operation for the solution of real life problems and knowledge of alternative computation procedures to find answers. The questions would also be based on arithmetical concepts and relationship between numbers and not on complicated arithmetical computation (The standard of the questions will be of 10+2 level).

(iv) **English Language And Comprehension**: Vocabulary, grammar, sentence structure, synonyms, antonyms and their correct usage; Spot the Error, Fill in the Blanks, Synonyms/ Homonyms, Antonyms, Spellings/ Detecting mis-spelt words, Idioms & Phrases, One word substitution, Improvement of Sentences, Active/ Passive Voice of Verbs, Conversion into Direct/ Indirect narration, Shuffling of Sentence parts, Shuffling of Sentences in a passage, Cloze Passage, Comprehension Passage. To test comprehension, two or more paragraphs will be given and questions based on those will be asked. At least one paragraph should be a simple one based on a book or a story and the other paragraph should be based on current affairs editorial or a report.

(v) **Computer Knowledge/Proficiency**: Computer Basics: Organization of a computer, Central Processing Unit (CPU), input/

output devices, computer memory, memory organization, back- up devices, PORTs, Windows Explorer, Keyboard shortcuts. Software: Windows Operating system including basics of Microsoft Office like MS word, MS Excel and Power Point etc.. Working with Internet and e-mails: Web Browsing & Searching, Downloading & Uploading, Managing an E-mail Account, e-Banking. Basics of networking and cyber security: Networking devices and protocols, Network and information security threats (like hacking, virus, worms, Trojan etc.) and preventive measures.

Statement showing distribution of marks for Direct Recruitment of various posts in APSPDCL

S.No.	Cadre	Distribution of marks						
		Core	General Intelligence & Reasoning	General Awareness	English Language & comprehension	Quantitative Aptitude	Computer Knowledge	Total
1	Assistant Executive Engineer/Electrical	70	5	7	5	8	5	100
2	Assistant Executive Engineer/Telecom	70	5	7	5	8	5	100
3	Assistant Executive Engineer/Civil	70	5	7	5	8	5	100

There shall be no negative marks in the Computer Based Test (CBT).

11. <u>DISCOM/LOCAL</u>:

(i) The recruitment, selection and allotment of candidates under this recruitment shall be carried out in accordance with the applicable regulations of APSPDCL, duly following the spirit and intent of the Presidential Order as reflected in the Government Orders issued from time to time, including G.O.Ms. No. 45, General Administration (SPF & MC) Department, dated 20.04.2026, and any amendments, modifications or clarifications issued thereon by the Government.

(ii) The candidates appointed shall be required to work in field offices such as Operation Sections/MRT/DPE/Construction Divisions preferably in rural and remote locations, for a continuous period of not less than **5 (Five) years** from the date of initial appointment, at any place within the jurisdiction of APSPDCL, based on administrative and operational requirements. During this period, no request for transfer to office or headquarters postings shall ordinarily be entertained. By submitting the application, the candidate shall be deemed to have accepted this condition. Any attempt to circumvent this requirement through political